# Archival Research: A "New" Issue for Graduate Education

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**Abstract**

To date, debate over graduate archival education has centered on the need for, and the nature of, the professional knowledge base to be imparted through master's education. A new emphasis on the acquisition of research skills and the conduct of research within graduate archival education at the master's and doctoral levels significantly extends this debate. Drawing on the experiences of the Archives and Preservation Management specialization at UCLA, this paper discusses issues associated with integrating research requirements and opportunities at master's and doctoral levels in graduate archival education. The paper concludes with a discussion of the need for increased pluralism in archival education.

**Introduction**

Archival educators collectively have a mission—to prepare the best educated, best prepared graduates to work in their local environment and to play their part as citizens in a global archival community. As individual educators, however, they are engaged in a blatantly value-laden pursuit that requires each one to take a position on what he or she feels is the best kind of education for archival students in his or her program, as well as for the development of the profession and its disciplinary base. These individual positions are crucial because they are what bring an enriching diversity of approaches and perspectives to archival education. Such individual engagement also places a responsibility on each educator to re-examine and re-formulate his or her educational philosophies, objectives, and activities as knowledge of the archival field and its environment grows and shifts. Collectively and as individuals, educators, therefore, face a perpetual challenge in fulfilling their mission—to envision and anticipate which educational tools will best prepare students for archival careers that are likely to evolve over the next several decades.

A newly heightened emphasis on the acquisition of research skills and the conduct of research within graduate archival education is one such area that reflects shifts and growth in the archival field and its environment. Drawing on the experiences of the Archives and Preservation Management specialization at UCLA, this paper discusses issues associated with integrating research requirements and opportunities at the master's and doctoral levels in graduate archival education. It concludes with a discussion of the need for pluralism in graduate education.

## The Case for Integrating Professional and Research Education

Graduate education in archival science should have three primary functions:
- inculcating the knowledge base, skills, ethos, and societal roles of the archival profession;
- grounding these in the history and theory of the underlying disciplines; and,
- advancing all of the aforementioned through critical inquiry.

Through their graduate education experience, archival students, both master's and doctoral, should be able to formulate their own way of looking at the world of archives and archival issues, and obtain a set of leadership skills, research tools, and a vocabulary to query, understand, and advance the profession and the discipline.

Teaching professional and research skills within a single curriculum is rather like bilingual education. On the one hand, students are not only learning how to read and to speak two languages, that of practice and that of research, but they are also immersed in, and sensitized to the cultural cadences embedded in those languages. They are acquiring a sense and appreciation of the diversity of perspectives and literacies that make up the social embedding of those languages worldwide. Such an education also requires students to confront and be able to investigate some hard "why?" questions. On the other hand, there is always the distinct possibility that students in such a curriculum will end up excelling in neither practice nor research. This possibility can be addressed by offering at least two different graduate degrees in archival science, each integrating research components, but tailored to different ends—those of practice and those of research.

Activities in graduate archival education in the past decade have centered on the development of the professional knowledge base and skills set at the master's level. However, a growing number of graduate archival programs are also engaged in doctoral education and there has been no discussion within the archival profession of the objectives and scope of a Ph.D. with an archival focus. The difference between the master's and the doctoral programs is one of

emphasis and one of perspective. The master's degree is a professional degree—it addresses most closely the first two of the functions outlined above, but includes enough of the third to enable the students, as future practitioners, to develop the knowledge needed for decision-making and to work to question, evaluate, and improve their professional environment. A doctoral degree (at least when it is a research, rather than a professional, doctorate) addresses most closely the building of knowledge and competency in the second and third of these functions, preparing students for careers in research and teaching. The major assumption underpinning such an approach is that doctoral students are already likely to have considerable knowledge and experience of the first function from prior master's degrees and work experience in archival theory and practice.[1] Doctoral students are taking a doctorate in order to learn how to apply research skills not only with a view to *improving* the professional environment (applied research), but also to *proving* the premises upon which it has developed (theoretical research). This is not to say that discussion of the knowledge base, skills, ethos, and societal roles of the archival profession should be omitted in doctoral programs, but that they should be addressed from perspectives that are quite different from those of the master's level. In the first place, doctoral students should learn to apply their critical analysis and research skills to a more conceptual understanding and questioning of how and why these have evolved, and how they relate to various external phenomena such as socio-political, economic, cultural, and epistemological developments. In the second place, students should learn how to convey these content areas as teachers of master's students.

There is, perhaps, one additional area of difference between the master's level and doctoral level in graduate education, and that lies in the area of mentoring. The role of mentoring in advancing the goals of archival education has only obliquely been discussed by the profession, and yet the development of a mentor-mentee relationship often becomes the invisible sustenance that nurtures the development of young professionals and stays with them throughout their career. Master's students and recent graduates often develop an informal mentoring relationship with archivists who have supervised them at the site of

[1] This assumption should not be made too lightly, however. As master's education is increasingly deemphasized in many fields, more graduate programs are prepared to admit students to doctoral programs who do not have a prior master's degree in their chosen area of study. For example, the academic backgrounds of the six doctoral students currently focusing on aspects of archives and preservation management at UCLA are eclectic: biophysics and microbiology, business administration, film and television, archaeology, theatre, and law. Three students have prior archival graduate qualifications, including two with European archival education; three do not have prior archival graduate qualifications. Given that no undergraduate education in archival science exists in the United States, this raises important considerations of what archival knowledge needs to be acquired at the doctoral level, and how that should be best acquired to equip doctoral students for future careers in academia and research.

their internship or first position. Sometimes they participate in a more formal mentoring process such as that sponsored by the Society of American Archivists. Overall, the responsibilities and benefits of mentoring need to be further emphasized by archival practitioners. For doctoral students, mentoring relationships are equally vital, but here the archival faculty themselves have a direct responsibility, in their roles as teachers, advisors, committee members, and research project directors, to invest what may often be a considerable amount of time and intellectual and emotional energy as mentors and role models.

### The Role of Research in Archival Graduate Education

The conduct of research is not a new phenomenon for the field per se—what is new is conceiving of research education and experience as an overt and integral piece of graduate archival education. The nascent discussion of the role of research in archival graduate education brings a new dimension to a debate that has been dominated in the United States for many years by the same set of questions:

- Do we need a distinct master's of archival science degree?
- Should graduate archival education take place within history or library and information science programs?
- What should be the balance of theory and practice in graduate archival education?
- To what extent should graduate archival education be responsive to the needs of contemporary archival employers?
- To what extent should it be anticipating or working to shape future directions of the field?

While we have not resolved these questions and they certainly have not gone away, perhaps we could recalibrate them if we had more data to work with. I have argued elsewhere that the activities of the archival community as a whole need to be more knowledge-based. Lack of knowledge of how archival education fits into the overall archival system has played a major part in holding back the profession and academia from advancing archival education more rapidly.[2] Systematic research is an important way in which such knowledge is gained, and yet the research base of the archival community is pitifully small. This is starting to change, and as testament to this, the Graduate Educators' Meeting in Pittsburgh in August 1999 raised for the first time an additional set of questions relating to archival education:

- To what extent should research be integrated into graduate archival education?

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[2] Anne J. Gilliland-Swetland, "Graduate Archival Education and the Professional Market: Perspectives on Data and Data Gathering," *Archival Issues* 23, no. 2 (1999): 89–115.

- What is qualitatively different between professional and research education?
- What is the argument in support of a Ph.D. in archival science?
- Is there a role for an intermediate post-master's degree such as a Certificate of Advanced Study?

Building robust doctoral education programs that are more than a flash in the pan or a passing fad requires both an external professional and an internal academic infrastructure. Luciana Duranti and I recently co-wrote a column for *Archival Outlook* discussing the pressing need for archival doctoral education to nurture new faculty and researchers in academia and industry, and the kind of external infrastructure that we believe should be put into place to support it. What we have called for are the following:

- Doctoral programs with a range of disciplinary and methodological perspectives and emphases and directed by full-time qualified faculty available at several institutions;
- A wider spectrum of readily available publications drawn from different archival traditions, and ancillary and allied disciplines, including monographs, refereed research articles, and collections of papers on selected topics;
- Dissemination of research results by academically acceptable means, including rigorously refereed journals, juried conference sessions, specialized education and research forums, and clearinghouses for research results such as a pre-print server;
- Increased research funding for academic research obtained by:
    1. influencing federal funding agendas to include broad conceptualizations of large-scale collaborative research initiatives as well as small research grants for individual dissertation research;
    2. recruitment of doctoral students to participate in faculty research projects so that they can acquire research experience, have the opportunity to collect their own data and publish the results of their analyses; and
    3. development of more research partnerships between academia and the field.[3]

The curricular infrastructure for doctoral education is unlikely to differ significantly from that in place in many other disciplines, although the scope and degree of concentration of archival science content requires considerable conceptualization. A common model, and the one used at UCLA, is to offer a series of doctoral-level seminars that lay the groundwork for students' qualifying exams and dissertation preparation by providing opportunities for in-depth discussion of archival theory and practice, critiques of the relevant literature, the develop-

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[3] Luciana Duranti, and Anne Gilliland-Swetland, "Archival Doctoral Education: An Issue and a Challenge for the Archival Profession," *Archival Outlook* (July/August 1999): 23.

ment of theoretical models, and the production of substantive seminar papers. The research aspect of doctoral education should be incremental and should be reinforced through research experience. Students should be required to take several different methods courses—those that introduce them early on in their studies to methods that are heavily used in the field, and later on, those that they have identified as appropriate methods to use to investigate their dissertation research questions. In their first year in the doctoral program, students should also be required to take a research design and perhaps also an epistemology course. Initially doctoral students should have the opportunity to serve research apprenticeships with faculty working in areas of interest to them. As the doctoral students complete more of their research methods coursework and become more proficient in data collection and analysis, they should be incorporated as full-fledged research assistants working with faculty on major research projects and achieving external recognition through professional presentations and co-publication of the research. At this stage, the students should also begin to identify a substantial research question or set of questions which they wish to address through their own dissertation research. They might also gather preliminary data as part of the larger research project of which they are a part and identify faculty, internal and external to their institutions, to serve on their dissertation committees. All of these activities serve to build students' competency, confidence, and contacts, thus equipping them to become independent researchers, initially for their dissertation work, but also for their long-term careers.

As alluded to earlier, how research education is integrated at the master's level differs from how it is integrated at the doctoral level. As Terry Eastwood has noted, students in a two-year master's program are generally not equipped to undertake research in their first year, although promising students can be individually incorporated into academic research to a certain extent in their second year.[4] Moreover, since much research takes multiple years to complete, faculty may be less willing to commit the time to training master's students to work on research projects if they are going to graduate within one to two years. None of this, however, precludes research methods coursework being required of all students during their first year in the program. Research elements can also be incorporated into academic assignments, internships, and cumulating activities in a variety of ways at the master's level. For example, students, either individually or in teams, can conduct case studies of actual institutional record keeping practices or perform structured observations and analyses of user behaviors or archival services as term projects. Such research activities can provide highly informative experiences

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[4] Terry Eastwood, "Archival Research: The UBC Experience," paper presented at the Working Meeting for Graduate Archival Educators: Research in and About Graduate Archival Education Programs, University of Pittsburgh, August 24, 1999. A revised version of Eastwood's paper is published in this issue of *American Archivist.*

for students preparing for contemporary archival careers. Master's theses, the more traditional means by which archival master's students have gained research experience, while they are unlikely to attain the depth of research expected of a doctoral dissertation, nevertheless can serve as an extended piece of often potentially publishable writing that requires the application of critical and analytical skills and the development and defense of an original intellectual argument.

Master's students at UCLA are required to satisfy prerequisites in statistics and computer programming before they commence their studies. The master's program is a two-year full-time program, although students are increasingly spending longer periods in the program because of the difficulties in getting all the coursework they want. This is not so much a problem of scheduling or of students' heavy external workloads, as it is evidence of the rapidly increasing knowledge base that they are seeking to acquire. Students spend their first year attaining the theoretical, management, and research foundations of archival, library, and information science, and museum studies, before they take advanced courses or do internships. During their first year, students must take at least one research methods course. Three different research methods courses are offered each year within the department—social science research methods, historical research methods, and systems analysis. A range of other research methods courses are available elsewhere on campus. Working with their advisors, students select the course or courses that relate most closely to their interests and career objectives, or to the needs of their master's thesis. If master's students have already taken research methods coursework in a prior graduate degree, they are expected to take either a different kind of methods course, or to take a more advanced methods course in the same area. While UCLA maintains an extensive internship program with over 120 sites in Southern California offering a range of paid and unpaid archives and preservation management internships, students may not begin an internship until they have completed all their foundations courses and the research methods requirement. Students may take up to twelve credit hours for one to three internships. Research activities are often integrated into advanced master's courses, and students have an option of writing a master's thesis as a culminating activity. This option has tended to attract the master's students who are more academically inclined, especially those who wish to enter a tenure track position as a university archivist where they will need to publish. The other culminating option, and the one that is chosen by the majority of students, is to prepare and present a portfolio of their work and professional engagement during their graduate studies. This portfolio is tailored to the student's specific career objectives and includes written and technological course products (including team projects), internship activities, professional memberships, professional presentations and publications, statements of career objectives, personal reflections on their leadership potential, and plans for continued learn-

ing. The portfolio is presented before a panel consisting of the student's advisor, another faculty member, and an external professional in the student's chosen field.

UCLA has also been very successful in attracting funding that has helped it to build a strong research base in which to engage both master's and doctoral students. In the past three years, archives and preservation management faculty received funding from the National Science Foundation for the Digital Portfolio Archives in Learning Project,[5] the University of California Office of the President (California Digital Library) for the Online Archive of California Evaluation Project,[6] and the National Historical Publications and Records Program for the US-InterPARES Project.[7] While master's students do not generally stay long enough in the graduate program to play substantive roles in long-term research, they have been extensively engaged in the collection and analysis of data. Doctoral students have been integral to each of the aforementioned projects, with five doctoral students currently working as part of the American research team on the InterPARES project.

There is one additional level in graduate education where research education might occur, and that is at the post-master's certificate level. Post-master's certificates such as Certificates of Advanced Study (C.A.S.) are increasingly being promoted by library and information science programs in the United States as a means by which graduate students who were unable to squeeze everything they wanted or needed into a two-year master's can take additional coursework specializing in an area such as archival science, and can also complete a culminating project in an area of applied research. These certificates are also available to professionals in the field who wish to return to school to re-tool their skills and knowledge base or to spend time on a research project addressing a practice-based issue that they have identified in the workplace. Such programs tend to be very much self-directed and self-crafted based on coursework available at both the master's and doctoral levels in the school, but they provide an interesting intermediate level between master's and doctoral programs and a direct connection to applied research issues in the field.

[5] See the Digital Portfolio Archives in Learning website, available at: <http://skipper.gseis.ucla.edu/faculty/swetland/HTML/DPA.html>.

[6] See the Online Archive of California website, available at: <http://skipper.gseis.ucla.edu/faculty/swetland/HTML/oacep/oachome.htm>. See also Anne J. Gilliland-Swetland, "Evaluation Design for Large-Scale, Collaborative Online Archives: Interim Report of the Online Archive of California Evaluation Project," *Archives & Museum Informatics* 12, nos. 3–4 (1998): 177–203.

[7] See the InterPARES website, available at: http://www.interpares.org and the US-InterPARES Website, available at <http://is.gseis.ucla.edu/us-interpares>.

## Which Research Methods and Why?

Students in any graduate program must be competent in four aspects relating to research—they must know how to put together a research design, they must have strong knowledge of the method or methods they plan to use in carrying out that design, they must understand the theory base or epistemology from which those methods derive, and they must be able to determine and implement the most appropriate ways to analyze any resulting data. In particular, students, through their studies, should acquire the ability to:

- read and understand the field's research literature;
- understand the relevance of, and have the ability to apply, such key research constructs as induction/deduction, replicability, generalisability, and triangulation of methods;
- understand and address ethical concerns associated with research and data collection such as the protection of human subjects;
- identify and articulate a research question;
- identify and apply appropriate research methods and methods of data analysis;
- develop a research design;
- build and test models;
- formulate and conduct an evaluation plan;
- work collaboratively;
- write and review research and development proposals; and,
- disseminate the results of research.

While no specifically archival research method exists, diplomatics, not currently taught by any archival program in the United States, comes closest to a method that is directly associated with the historical development and practices of archival science. Diplomatics can provide an invaluable analytical framework for understanding the creation, function, and form of individual documents and their aggregates. Research methods most commonly taught in archival programs are outlined in Table 1, together with examples of some of the research activities for which they might be effective. For the most part, these methods have emanated from the historical and social science disciplines in which the archival programs are located and have been adopted and adapted to archival ends. Graduate students at any level would benefit from being able to take courses in at least one of these methods *in addition to* a research design and a statistics course. Courses teaching many of these methods are likely to be available elsewhere on a campus if the archival program is unable to provide them itself because of a lack of resources or expertise. It is preferable, however, for basic methods and research design courses to be integrated into the archival curriculum and taught from an archival perspective to ensure that students really grasp how they might be applied in the archival context.

**Table I**   Research Methods Frequently Taught in Archival Education Programs

| Research Method | Definition | Examples of Potential Applications in Archival Research |
|---|---|---|
| Diplomatics | Body of techniques, theories, and principles for analyzing the form, function, and genesis of documents, with a particular view to establishing authenticity. | • Analysis of changes and continuity in document forms over time.<br>• Identification of record types in electronic systems.<br>• Identification of requirements for preserving authentic records in electronic systems. |
| Historiography | Body of techniques, theories and principles of historical research and presentation involving a critical examination, evaluation, and selection of material from primary and secondary sources. | • Writing institutional and administrative histories.<br>• Analysis of the historical development of archival movements or legislation.<br>• Evaluating the extent to which digital access initiatives facilitate the research practices of historical scholars. |
| Survey Research | Written or oral surveys designed to produce systematic, representative, qualitative, and quantifiable data based on responses provided by individuals within a targeted population to a predetermined set of questions. | • User needs and attitudes analysis.<br>• Tracking of graduates of archival education programs.<br>• Surveying of current archival practices. |
| Case Studies | In-depth study of an individual situation, institution, or process in order to understand it in complex detail, and sometimes, to compare against other cases. | • Detailed description and analysis of specific services or electronic records or digital access initiatives at one or more institutions. |

Table 2 indicates additional methods, including quantitative and more in-depth qualitative methods, that could usefully be applied in archival research and might be studied at the doctoral level.

## The Need for Pluralism in Graduate Archival Education and Research

It is important that educators, working in concert with the profession, develop a unified yet dynamic vision, and a common understanding about the core knowledge and competencies that must be addressed by graduate programs in archival science. It is also essential, however, that there be pluralism in programs and their research activities. Individual programs must not be so constrained by professional curricular guidelines that they become carbon copies of each other, unable to address identified local needs and emerging markets, or to specialize in particular aspects of archival science or method-

ological approaches where expertise and institutional support are available. Encouraging pluralism will enrich the profession, provide prospective graduate students with a choice of programs with different emphases, and build centers of excellence in specific research areas. In this spirit, it is important to point out that programs exist under the auspices of many different disciplines—

**Table 2**  Examples of Additional Research Methods That Could Be Applied in Archival Research

| Research Method | Definition | Examples of Potential Applications in Archival Research |
|---|---|---|
| **Metrics:** | | |
| • Cliometrics | Statistical, often computerized, methods for analyzing historical data. | • Analyzing historical record keeping practices, e.g., occurrence of certain data elements in records, or consistency of linkages between different data elements. |
| • Sociometrics and Social Network Analysis | Statistical methods for analyzing complex relationships between and attitudes of members of a social grouping. | • Description and analysis of interaction between collaborators participating in multi-institutional initiatives.<br>• Identification of "invisible college" phenomena among archival practitioners or researchers. |
| • Bibliometrics | Statistical methods for analyzing bibliographic data. | • Citation analysis of archival literature examining the extent to which authors draw upon literature from other disciplines.<br>• Analysis of the aging and scattering of archival literature. |
| Ethnography | Systematic description of individual cultures and practices based on observation. | • In-depth studies of archival practices such as reference services.<br>• Examination of records creation and recordkeeping practices in specific institutional settings. |
| Narrative Analysis | Body of techniques for examining how narrative or rhetorical tropes are used in documents to "tell stories" or advance particular perspectives or arguments. | • Analysis of records or information policy development.<br>• Tracing the emergence of certain aspects of archival administration such as electronic records management as priority issues for the profession. |
| Grounded Theory Development | Method for discovering concepts and hypotheses and developing theory directly from data that provides relevant and interesting cases for analysis. | • Exploratory research where little is known about a particular situation or phenomenon, e.g., modeling the functionality of different types of electronic recordkeeping systems; or developing the records continuum construct. |
| Systems Analysis | Evaluation of activities, processes, and functions in order to identify desired objectives and to determine procedures for efficiently attaining them. | • Design and refinement of reference service delivery<br>• Design and refinement of digital access systems. |

archival science, history, library and information science, information studies, and education, to name some of the most prevalent. There are also many professional rubrics under which to conceive of a program. For example, the University of British Columbia and University of Manitoba programs are in Archival Studies. The University of Michigan and the University of Pittsburgh have programs in Archives and Records Management. New York University has a Certificate in Archival Management and Historical Editing, and the University of Texas has a program in Preservation Administration.

UCLA provides a particularly strong case for such pluralism. Its Archives and Preservation Management Program was established in 1996 within the Department of Information Studies of the Graduate School of Education and Information Studies.[8] The Department of Information Studies has also recently developed a joint graduate program in Film and Television Curatorship with the Department of Film and Television that reflects the importance of the media industry and moving image archives and preservation to Los Angeles. It also participates with the Department of Anthropology in an interdisciplinary Museum Studies Program offered through the Department of Art History. These programs have developed out of an unusual nexus of interests in archival science, preservation management, records management, library and information science, museum studies, education, film studies, history of science, and anthropology.[9]

The vision driving the Archives and Preservation Management Program is to address identified professional needs in California, and also to produce the kinds of leaders and researchers that the archival profession will need in the next few decades. Through this vision, we have tried to address our immediate Southern California context with its metropolitan area of approximately 16 million people speaking over 200 languages, several hundred archives and museums, and vast corporate interests, including the entertainment and software industries.[10] In developing the program, it was necessary to take into consideration the strong curatorial tradition in Southern California that has led manuscript repositories and museums to be heavy recruiters of archival graduates into middle management positions. We have also sought to strengthen our curricular focus on the traditional and the electronic record. As mentioned above, the description, preservation, and use of visual materials and the non-textual

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8  More detail about the program and its curriculum is available at: <http://skipper.gseis.ucla.edu/faculty/swetland/HTML/program.html>.

9  For a discussion of how the core curriculum in information structures across library and information science, archival science, and museum studies evolved, see Anne J. Gilliland-Swetland and Gregory Leazer, "Knowledge Sharing for Knowledge Management Across Museum, Library, and Archival Collections," *SPECTRA* 26 (Summer/Fall 1999): 36–39.

10  For further discussion on the development of this vision, see Anne J. Gilliland-Swetland and Virginia Walter, "When Domains Converge: The Emerging Information Professional," paper presented at the Association of Library and Information Science Educators Annual Meeting, Washington, D.C., February 1997.

record are of critical interest locally. Increasingly, UCLA graduates are becoming film archivists, digital asset managers, or metadata managers for studios and independent film archives, and the need to address the theory base and new skills that such positions require has led to the development of an innovative certificate program that will bring film curatorship and moving image archives education into the twenty-first century.

As much a philosophical as an academic commitment is the UCLA program's promotion of multicultural and international aspects of archival theory and practice. The program has strong links with Canadian, Australian, and European archival education programs and research projects, and comparative discussion of other national archival traditions has been integrated into the curriculum in an effort to develop student understanding of why and how different archival traditions and practices have evolved, as well as to prepare students for future work in international research activities and policy and standards development. Another emphasis of the program is on preparing graduates to develop recordkeeping and archival programs within diverse and multilingual cultural settings and businesses, especially in the Latino and Asian-American communities.

## Summary

The need for students in graduate archival education programs to receive training and gain experience in the conduct of research has become more pressing as both the theory and the practice bases of the archival profession have developed. Such training and experience need to take on different forms, however, depending upon whether they are being directed toward the education of future archival practitioners or that of researchers in academia and industry. Archival master's graduates are increasingly entering the profession in middle-management positions and are expected to tackle complex team-based projects in areas such as technological implementations for records creation or delivery, policy development, and end user services. Such projects often involve planning, design, management, and evaluation activities for which research design and collaboration skills are essential. Archival doctoral graduates are in high demand for faculty positions, and are increasingly sought also by industry and the policy development arena for research and development positions. In order to be successful in obtaining and maintaining such positions, however, doctoral graduates need to have a proven research record and the ability to develop and further their own research agenda, whether it be in theoretical or applied research. There is no one best way to integrate research into archival education. Ultimately, how and the extent to which this is achieved will be dependent upon the nature of individual education programs and the expertise of the faculty teaching within them.